

WHAT IS CLAIMED IS:

- 1 1. A method for providing wireless communication between a mobile station
2 and a network station using a context for message compression, comprising:
3 storing persistently profile-specific information in a profile-specific
4 dictionary; and
5 providing communication between the mobile station and the network
6 station using the profile-specific dictionary for message compression.
- 1 2. The method of Claim 1, the profile-specific information comprising device
2 information.
- 1 3. The method of Claim 1, the profile-specific information comprising user
2 information.
- 1 4. The method of Claim 3, further comprising storing the user information in
2 an identity module, the identity module removable from the mobile station.
- 1 5. The method of Claim 1, the profile-specific dictionary comprising a
2 plurality of dictionaries, and storing profile-specific information in the profile-specific
3 dictionary comprising storing in each of the plurality of dictionaries profile-specific
4 information corresponding to one of a plurality of mobile stations.

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1 6. The method of Claim 1, further comprising:
2 storing persistently protocol-specific information in a static dictionary; and
3 providing communication between the mobile station and the network
4 station further comprising providing communication between the mobile station and the
5 network station using the protocol-specific dictionary for message compression.

1 7. The method of Claim 1, further comprising:
2 downloading code for at least one of a compressor operable to compress
3 messages and a decompressor operable to decompress messages; and
4 providing communication between the mobile station and the network
5 station further comprising providing communication between the mobile station and the
6 network station using the code.

1 8. A system for providing wireless communication between a mobile station
2 and a network station using a context for message compression, comprising:

3 a computer-processable medium; and
4 logic stored on the computer-processable medium, the logic operable to
5 store persistently profile-specific information in a profile-specific dictionary and to
6 provide communication between the mobile station and the network station using the
7 profile-specific dictionary for message compression.

1 9. The system of Claim 8, the profile-specific information comprising device
2 information.

1 10. The system of Claim 8, the profile-specific information comprising user
2 information.

1 11. The system of Claim 8, the profile-specific dictionary comprising a
2 plurality of dictionaries, and the logic operable to store profile-specific information in the
3 profile-specific dictionary by storing in each of the plurality of dictionaries profile-
4 specific information corresponding to one of a plurality of mobile stations.

1 12. The system of Claim 8, the logic further operable to store persistently
2 protocol-specific information in a static dictionary and to provide communication
3 between the mobile station and the network station by providing communication using
4 the protocol-specific dictionary for message compression.

- 1 13. The system of Claim 8, the logic further operable to download code for at
2 least one of a compressor operable to compress messages and a decompressor operable to
3 decompress messages and to provide communication between the mobile station and the
4 network station by providing communication using the code.

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1 14. A method for providing a dictionary for message compression,
2 comprising:

3 receiving a setup message from a mobile station;

4 searching for a common dictionary based on the setup message;

5 attempting to validate the common dictionary when the common
6 dictionary is found;

7 providing a common dictionary identifier associated with the common
8 dictionary to the mobile station when the common dictionary is validated; and

9 communicating with the mobile station using the common dictionary.

1 15. The method of Claim 14, further comprising:

2 requesting the common dictionary from a compression server when no
3 common dictionary is found; and

4 requesting the common dictionary from the compression server when the
5 common dictionary is not validated.

1 16. The method of Claim 15, further comprising:

2 receiving the common dictionary from the compression server; and

3 providing a common dictionary identifier associated with the common
4 dictionary to the mobile station when the common dictionary is received from the
5 compression server.

1 17. The method of Claim 14, the common dictionary comprising a profile-
2 specific dictionary.

1 18. The method of Claim 17, the profile-specific dictionary operable to store
2 persistently profile-specific information, the profile-specific information comprising
3 device information.

1 19. The method of Claim 17, the profile-specific dictionary operable to store
2 persistently profile-specific information, the profile-specific information comprising user
3 information.

1 20. The method of Claim 17, the profile-specific dictionary comprising a
2 plurality of dictionaries, each of the plurality of dictionaries operable to store persistently
3 profile-specific information corresponding to one of a plurality of mobile stations.

1 21. The method of Claim 14, the common dictionary comprising a static
2 dictionary, the static dictionary operable to store persistently protocol-specific
3 information, the protocol-specific information comprising Session Initiation Protocol
4 information.

1 22. A station for providing wireless communication using message
2 compression, comprising:

3 a dictionary module operable to store a plurality of dictionaries, each
4 dictionary operable to store a plurality of signaling message strings, one of the
5 dictionaries comprising a profile-specific dictionary;

6 a compressor coupled to the dictionary module, the compressor operable
7 to generate a first reference value corresponding to a first string in a first signaling
8 message that is to be communicated and to communicate the first reference value instead
9 of the first string; and

10 a decompressor coupled to the dictionary module, the decompressor
11 operable to receive a second reference value and to recover a second string in a second
12 signaling message based on the second reference value.

1 23. The station of Claim 22, the profile-specific dictionary operable to store
2 persistently profile-specific information, the profile-specific information comprising
3 device information.

1 24. The station of Claim 22, the profile-specific dictionary operable to store
2 persistently profile-specific information, the profile-specific information comprising user
3 information.

1 25. The station of Claim 24, the profile-specific dictionary comprising an
2 identity module operable to store persistently the user information, the identity module
3 removable from the station.

1 26. The station of Claim 22, the profile-specific dictionary comprising a
2 plurality of dictionaries, each of the plurality of dictionaries operable to store persistently
3 profile-specific information corresponding to one of a plurality of mobile stations.

1 27. The station of Claim 22, a second one of the dictionaries comprising a
2 static dictionary, the static dictionary operable to store persistently protocol-specific
3 information, the protocol-specific information comprising Session Initiation Protocol
4 information.

1 28. A method for synchronizing dictionaries for message compression
2 between a first station and a second station, comprising:
3 identifying a rollback initiating event at the first station;
4 selecting at the first station a checkpoint dictionary based on the rollback
5 initiating event;
6 communicating an index value from the first station to the second station,
7 the index value operable to identify the checkpoint dictionary; and
8 using the checkpoint dictionary for message compression.

1 29. The method of Claim 28, using the checkpoint dictionary for message
2 compression comprising replacing a previously used dictionary with the checkpoint
3 dictionary.

1 30. The method of Claim 28, the rollback initiating event comprising one of
2 an error-detecting code mismatch and a checkpoint rejection.

1 31. The method of Claim 28, further comprising:
2 identifying a checkpoint initiating event at an initiator, the initiator
3 comprising one of the first station and the second station;
4 storing at the initiator a second checkpoint dictionary based on the
5 checkpoint initiating event; and
6 sending a checkpoint initiation from the initiator to a responder, the
7 responder comprising the one of the first station and the second station other than the
8 initiator, the checkpoint initiation comprising an index value operable to identify the
9 second checkpoint dictionary.

1 32. The method of Claim 31, further comprising storing at the responder the
2 second checkpoint dictionary.

1 33. The method of Claim 31, the checkpoint initiating event comprising one of
2 an expiration of a timer and a checkpoint initiation request.

1 34. The method of Claim 28, the checkpoint dictionary comprising a dynamic
2 dictionary.

1 35. The method of Claim 34, the checkpoint dictionary further comprising a
2 profile-specific dictionary.

1 37. The method of Claim 36, further comprising storing at the second station
2 the second checkpoint dictionary.

1 39. The method of Claim 36, the checkpoint dictionary comprising a dynamic
2 dictionary.

40. - The-method of Claim 39,-the checkpoint dictionary further comprising a
profile-specific dictionary.

1 41. A dictionary module for providing message compression for wireless
2 communication between a mobile station and a network station, comprising:

3 a dynamic dictionary operable to store signaling messages exchanged
4 between the mobile station and the network station during a particular communication
5 session; and

6 a profile-specific dictionary operable to store persistently signaling
7 messages related to a profile for the mobile station.

1 42. The dictionary module of Claim 41, the signaling messages related to the
2 profile for the mobile station comprising device information.

1 43. The dictionary module of Claim 41, the signaling messages related to the
2 profile for the mobile station comprising user information.

1 44. The dictionary module of Claim 43, the profile-specific dictionary
2 comprising an identity module, the identity module operable to store the user
3 information, the identity module removable from the mobile station.

1 45. The dictionary module of Claim 41, the profile-specific dictionary
2 comprising a plurality of dictionaries, each of the plurality of dictionaries operable to
3 store persistently signaling messages related to a profile for one of a plurality of mobile
4 stations.

1 46. The dictionary module of Claim 41, further comprising a static dictionary
2 operable to store persistently signaling messages related to a protocol for the mobile
3 station.

1 47. The dictionary module of Claim 46, the protocol comprising Session
2 Initiation Protocol.

1 48. The dictionary module of Claim 41, further comprising a checkpoint
2 dictionary operable to store a copy of a particular version of the dynamic dictionary based
3 on a checkpoint initiating event.

1 49. The dictionary module of Claim 48, the checkpoint dictionary further
2 operable to store a copy of a particular version of the profile-specific dictionary.

1 50. The dictionary module of Claim 48, the checkpoint dictionary comprising
2 a plurality of dictionaries, each of the plurality of dictionaries operable to store a copy of
3 a different version of the dynamic dictionary.

1 51. The dictionary module of Claim 50, each of the plurality of dictionaries
2 further operable to store a copy of a different version of the profile-specific dictionary.